

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Original) 1. A compound comprising a plurality of linked nucleosides, wherein:

each nucleoside includes a ribofuranosyl sugar portion and a base portion; and

at least one of said nucleosides bears at a 2'-O-position or a 3'-O-position a

substituent having formula:

-RA-N-C(X)-O-R1a

or

-C(X)-N(R1b)(R1c)

where:

RA is alkyl having from 1 to about 10 carbon atoms or (CH₂-CH₂-Q)_x;

R1a is alkenyl having 2 to about 10 carbon atoms;

R1b and R1c, independently, are H, R2, RA, an amine protecting group or have formula RA-N(R1d)(R1e), C(X)-R2, C(X)-RA-R2, C(X)-Q-RA-R2, or C(X)-Q-R2;

R1d and R1e, independently, are H, R2, RA, an amine protecting group or have formula C(X)-R2, C(X)-RA-R2, C(X)-Q-RA-R2, or C(X)-Q-R2;

R2 is a steroid molecule, a reporter molecule, a lipophilic molecule, a reporter enzyme, a peptide, a protein, includes folic acid, or has formula -Q-(CH₂CH₂-

Q)-_x-R3;

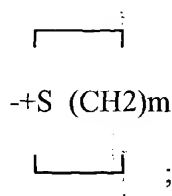
X is O or S;

each Q is, independently, is NH, O, or S;

x is 1 to about 200;

R3 is H, RA, C(O)OH, C(O)ORA, C(O)R4, RA-N3, or RA-NH2;

R4 is Cl, Br, I, SO₂R5 or has structure:

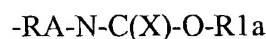


m is 2 to 7; and

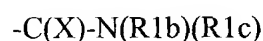
R5 alkyl having 1 to about 10 carbon atoms.

Claims 2-19 (Cancelled).

20. (Original) A nucleoside comprising a ribofuranosyl sugar portion and a base portion, wherein said nucleoside bears at a 2'-O-position or a 3'-O-position a substituent having formula:



or



where:

RA is alkyl having from 1 to about 10 carbon atoms or (CH₂-CH₂-Q)_x;

R1a is alkenyl having 2 to about 10 carbon atoms;

R1b and R1c, independently, are H, R2, RA, an amine protecting group or have formula RA-N(R1d)(R1e), C(X)-R2, C(X)-RA-R2, C(X)-Q-RA-R2, or C(X)-Q-R2;

R1d and R1e, independently, are H, R2, RA, an amine protecting group or have formula C(X)-R2, C(X)-RA-R2, C(X)-Q-RA-R2, or C(X)-Q-R2;

R2 is a steroid molecule, a reporter molecule, a lipophilic molecule, a reporter enzyme, a peptide, a protein, includes folic acid, or has formula -Q-(CH₂CH₂-

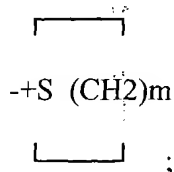
X is O or S;

each Q is, independently, is NH, O, or S;

x is 1 to about 200;

R3 is H, RA, C(O)OH, C(O)ORA, C(O)R4, RA-N3, or RA-NH2;

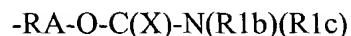
R4 is Cl, Br, I, SO₂R₅ or has structure:



m is 2 to 7; and

R5 alkyl having 1 to about 10 carbon atoms.

21. (Original) A compound comprising a plurality of linked nucleosides, wherein:
each nucleoside includes a ribofuranosyl sugar portion and a base portion; and
at least one of said nucleosides includes a pyrimidine base which bears at its 5-
position a substituent having formula:



where:

RA is alkyl having from 1 to about 10 carbon atoms or (CH₂-CH₂-Q)_x;

R1b and R1c, independently, are H, R2, RA, an amine protecting group or have formula RA-N(R1d)(R1e), C(X)-R2, C(X)-RA-R2, C(X)-Q-RA-R2, or C(X)-Q-R2;

R1d and R1e, independently, are H, R2, RA, an amine protecting group or have formula C(X)-R2, C(X)-RA-R2, C(X)-Q-RA-R2, or C(X)-Q-R2;

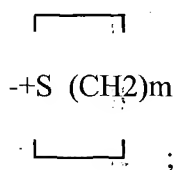
Q-)x-R3;

each Q is, independently, is NH, O, or S;

x is 1 to about 200;

R3 is H, RA, C(O)OH, C(O)ORA, C(O)R4, RA-N3, or RA-NH2;

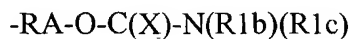
R4 is Cl, Br, I, SO₂R₅ or has structure:



m is 2 to 7; and

R5 alkyl having 1 to about 10 carbon atoms.

22. (Original) A nucleoside comprising a ribofuranosyl sugar portion and a pyrimidine base portion, wherein said base portion bears at its 5-position a substituent having formula:



where:

RA is alkyl having from 1 to about 10 carbon atoms or (CH₂-CH₂-Q)_x;

R1b and R1c, independently, are H, R2, RA, an amine protecting group or have formula RA-N(R1d)(R1e), C(X)-R2, C(X)-RA-R2, C(X)-Q-RA-R2, or C(X)-Q-R2;

R1d and R1e, independently, are H, R2, RA, an amine protecting group or have formula C(X)-R2, C(X)-RA-R2, C(X)-Q-RA-R2, or C(X)-Q-R2;

R2 is a steroid molecule, a reporter molecule, a lipophilic molecule, a reporter enzyme, a peptide, a protein, includes folic acid, or has formula -Q-(CH₂CH₂-

Q-)x-R₃;

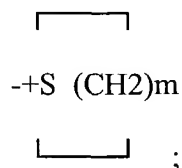
X is O or S;

each Q is, independently, is NH, O, or S;

x is 1 to about 200;

R₃ is H, RA, C(O)OH, C(O)ORA, C(O)R₄, RA-N₃, or RA-NH₂;

R₄ is Cl, Br, I, SO₂R₅ or has structure:



m is 2 to 7; and

R₅ alkyl having 1 to about 10 carbon atoms.

Claim 23 (Cancelled).

24. (Original) A method for modulating the production of a protein by an organism comprising contacting an organism with a compound of claim 20.

Claim 25 (Cancelled).

26. (Original) A method for modulating the production of a protein by an organism comprising contacting an organism with a compound of claim 22..

Claim 27 (Cancelled).

28. (Original) A method of treating an animal having a disease characterized by undesired production of protein comprising contacting said animal with a compound of claim

Claim 29 (Cancelled).

30. (Original) A method of treating an animal having a disease characterized by undesired production of protein comprising contacting said animal with a compound of claim 22.

Claim 31 (Cancelled).

32. (Original) A method for detecting the presence or absence of an RNA in a biological sample suspected of containing said RNA comprising contacting said sample with a compound of claim 20.

Claim 33 (Cancelled).

34. (Original) A method for detecting the presence or absence of an RNA in a biological sample suspected of containing said RNA comprising contacting said sample with a compound of claim 22.